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10/509,190	08/09/2005	Torsten Muller	B1180/20029	5188

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EXAMINER

RIPLEY, JAY R

ART UNIT	PAPER NUMBER
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3679

MAIL DATE	DELIVERY MODE
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06/05/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/509,190	<b>Applicant(s)</b> MULLER ET AL.	
	<b>Examiner</b> Jay R. Ripley	<b>Art Unit</b> 3679	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 10/13/2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09/24/2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>10/13/2005</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Priority***

1. Acknowledgment is made of applicant's claim for foreign priority under 35 U.S.C. 119(a)-(d).

### ***Information Disclosure Statement***

2. The information disclosure statement (IDS) filed on 10/13/2005 was considered by the examiner.

### ***Drawings***

3. The drawings are objected to because of improper cross-hatching. The cross-hatching in Figures 1 and 2 for the sealing device (30) fails to correspond to any of the material representative cross-hatchings shown in MPEP section 608.02. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the

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remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to because in Figures 1 and 2 it is not discernable that the liquid line (10) is a separate physical piece than the microsystem (20). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The drawings are objected to because of a general lack of appropriate leader lines. As a non-exhaustive example, in Figure 1 the reference character 10 should have a leader line to the

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liquid line the reference character denotes and in Figure 3 the reference character 20 should have a leader line to the microsystem structure the reference character denotes. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant’s use.

#### **Arrangement of the Specification**

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase “Not Applicable” should follow the section heading:

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- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
  - (1) Field of the Invention.
  - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

6. The disclosure is objected to because of the following informalities: the original specification is objected to as it lacks appropriate headings.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 5, 8-12, 14-16, and 18-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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9. In regard to claim 5, it is recited in line 1, “ The coupling device according to Claim 5”.

As a claim cannot depend upon itself, for this office action only claim 5 will be treated as depending upon claim 4.

10. In regard to claim 8, it is recited in line 1, “ The coupling device according to Claim 8”.

As a claim cannot depend upon itself, for this office action only claim 8 will be treated as depending upon claim 7.

11. In regard to claim 9, it is recited in line 1, “ The coupling device according to Claim 9”.

As a claim cannot depend upon itself, for this office action only claim 9 will be treated as depending upon claim 8.

12. In regard to claim 12, it is recited in line 1, “ The coupling device according to Claim 12”. As a claim cannot depend upon itself, for this office action only claim 12 will be treated as depending upon claim 11.

13. In regard to claim 14, it is recited in line 1, “ The fluidic system according to Claim 14”.

As a claim cannot depend upon itself, for this office action only claim 14 will be treated as depending upon claim 13.

14. In regard to claim 15, it is recited in line 1, “ The fluidic system according to Claim 15”.

As a claim cannot depend upon itself, for this office action only claim 15 will be treated as depending upon claim 14.

15. In regard to claim 18, it is recited in line 1, “ The method according to Claim 18”. As a claim cannot depend upon itself, for this office action only claim 18 will be treated as depending upon claim 17.

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16. In regard to claim 19, it is recited in line 1, "The method according to Claim 18". As the limitations of claim 18 and claim 19 are mutually exclusive, for this office action only claim 19 will be treated as depending upon claim 17.

17. Appropriate correction is required.

***Claim Rejections - 35 USC § 102***

18. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

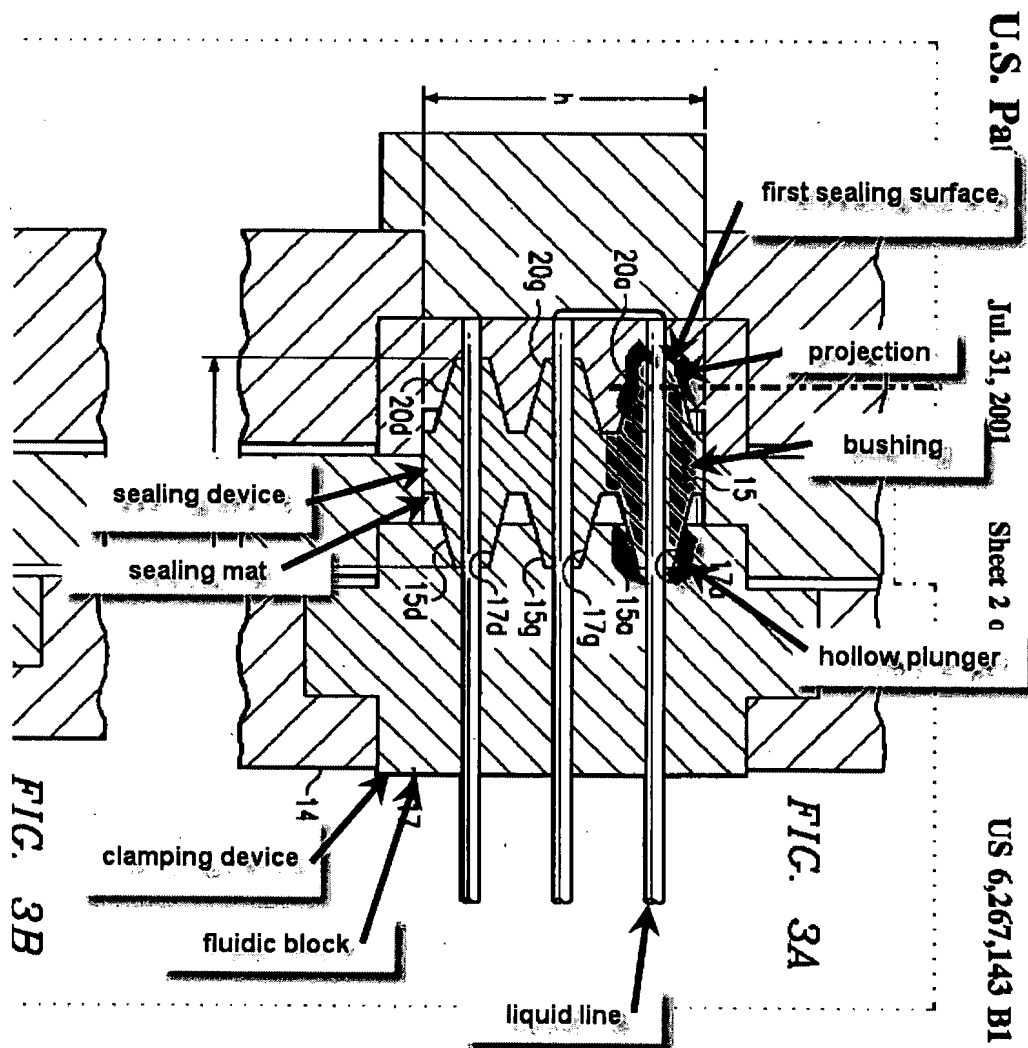
19. Claims 1-12 are rejected under 35 U.S.C. 102(e) as being anticipated by Schick (U.S. 6,267,143).

20. In regard to claim 1, Schick discloses in Figure 3A, below, a coupling device comprising:  
at least one sealing device having at least one bushing adapted to receive an end region of the at least one liquid line and having a first sealing surface adapted to contact an external surface of the fluidic system, an end of the at least one liquid line being laterally enclosed by the first sealing surface and pointing toward an opening in the external surface, and

a clamping device having at least one hollow plunger, forming a receptacle for at least a part of the at least one bushing, wherein the clamping device is adapted to press the bushing onto the fluidic system, so that the first sealing surface produces a liquid-tight connection with the external surface,



wherein the at least one hollow plunger is situated so as to be movable in relation to the external surface, the at least one bushing has an external shape, adapted to interact with an internal shape of the at least one hollow plunger of the clamping device in such a way that a force directed toward the external surface of the fluidic system is exerted on the at least one bushing using the at least one hollow plunger, and the at least one bushing has a projection forming the first sealing surface and an engagement surface for the clamping device.



(Schick Figure 3A)

21. In regard to claim 2, Schick further discloses that the hollow plunger is conical in shape (column 7, lines 50-54).

22. In regard to claim 3, Schick further discloses that the bushing has a conical external shape (column 7, lines 50-56).

23. In regard to claim 4, Schick further discloses, in Figure 3A above, that the bushing has an internal hollow channel (that which the liquid line is in), the internal hollow channel forming a second sealing surface (the channel has a surface) and the sealing device being able to be pressed against the end region of the at least one liquid line using the hollow plunger in such a way that the second sealing surface produces a liquid-tight connection with the surface of the end region.

24. In regard to claim 5, Schick further discloses that the internal hollow channel has a cylindrical internal shape (in discussing the embodiment shown in Figure 2, Schick states that the internal hollow channel (11a) is a cylindrical portion (column 4, lines 59-62) and, as there is no statement that the same portion in Figure 3A is a different in shape, the Examiner interprets that the internal hollow channel as shown in Figure 3A, above, has a cylindrical internal shape).

25. In regard to claim 6, Schick further discloses in Figure 3A, above, that the first sealing surface is larger than a cross-sectional area of the end of the at least one liquid line (as is obviously observed as the liquid line is enclosed by the sealing surface).

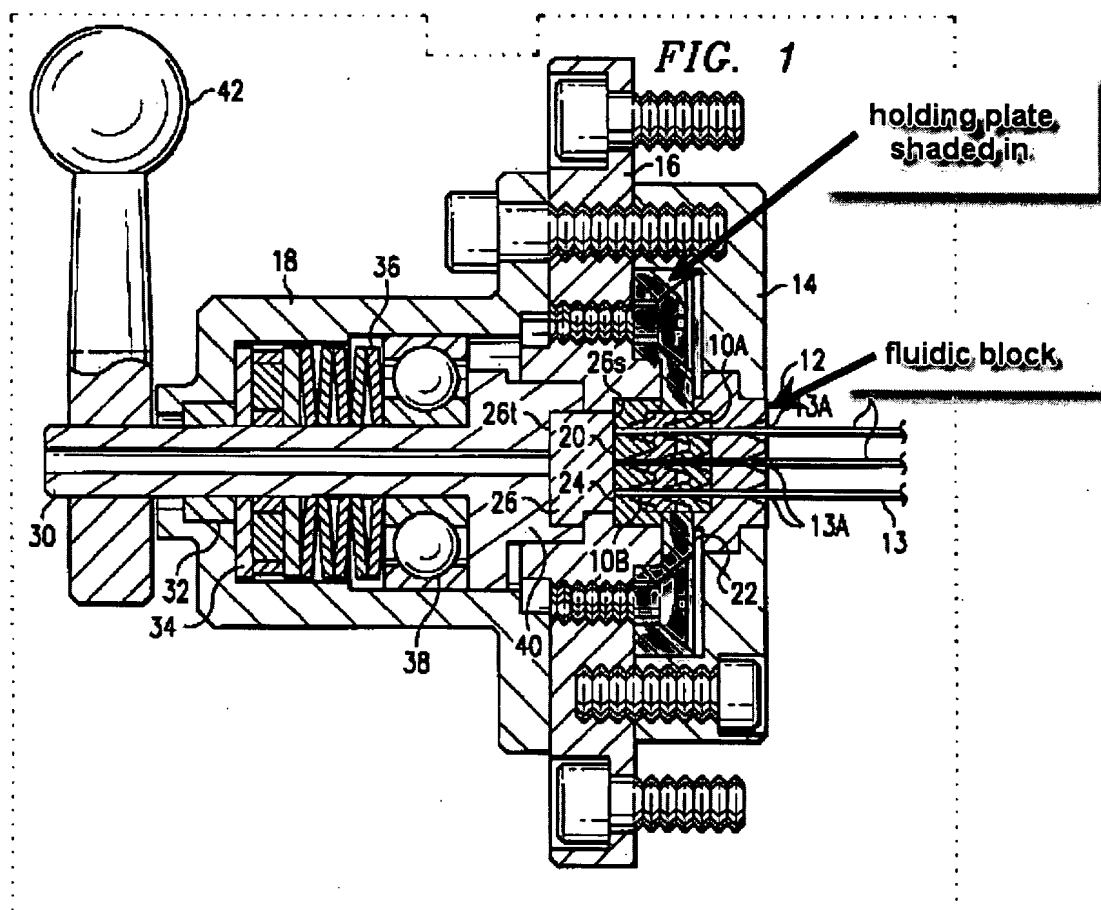
26. In regard to claim 7, Schick further discloses in Figure 3A, above, multiple bushings provided on the at least one sealing device, the multiple bushings forming at least one sealing unit and being adapted to couple multiple liquid lines to the fluidic system simultaneously.

27. In regard to claim 8, Schick further discloses in Figure 3A, above, that the bushings of the sealing device are connected to one another in a row (three in a row in Figure 3A, above).

28. In regard to claim 9, Schick further discloses in Figure 3A, above, that the sealing unit forms a sealing mat, from which the bushings project.

29. In regard to claim 10, Schick further discloses in Figure 3A, above, that the clamping device comprises a fluidic block, in which hollow plungers are formed in accordance with an arrangement of the bushings of the at least one sealing unit.

30. In regard to claim 11, Schick further discloses in Figure 1, below, a holding plate (22) permanently connected with the fluidic system and arranged for positioning the sealing unit on the fluidic system.



(Schick Figure 1)

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31. In regard to claim 12, Schick further discloses in Figure 1, above, that the fluidic block is arranged to be pressed onto the holding plate using a bayonet connector (the structure as disclosed by Schick has an appropriate arrangement to allow the fluidic block to be pressed onto the holding plate using a bayonet connector, therefore the claim limitations are met).

32. Note that a recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus satisfying the claimed structural limitations. *Ex parte Masham*, 2 USPQ5d 1647 (1987).

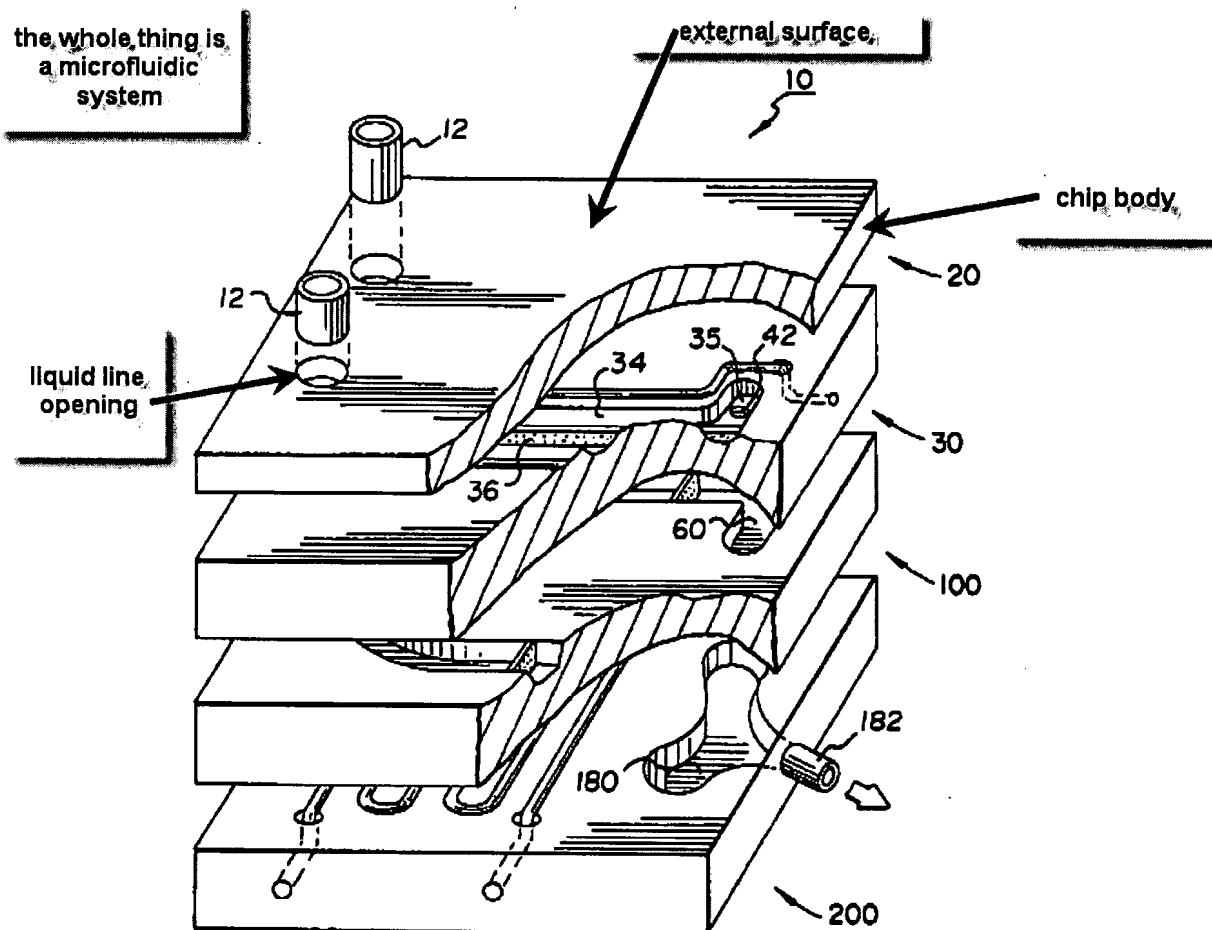
33. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

34. Claims 13-16 are rejected under 35 U.S.C. 102(b) as being anticipated by Ghosh et al (U.S. 5,961,593).

35. In regard to claim 13, Ghosh et al disclose in Figure 1, below, fluidic system (10) comprising a chip body (20).



**Fig. 1**

(Ghosh et al Figure 1)

36. In regard to claim 14, Ghosh et al further disclose in Figure 1, above, the chip body has an external surface, the external surface being planar at least in some sections and having at least one opening adjoined to a line end of the at least one liquid line.

37. In regard to claim 15, Ghosh et al further disclose in Figure 1, above, that the line end of the liquid line has a cylindrical external shape.

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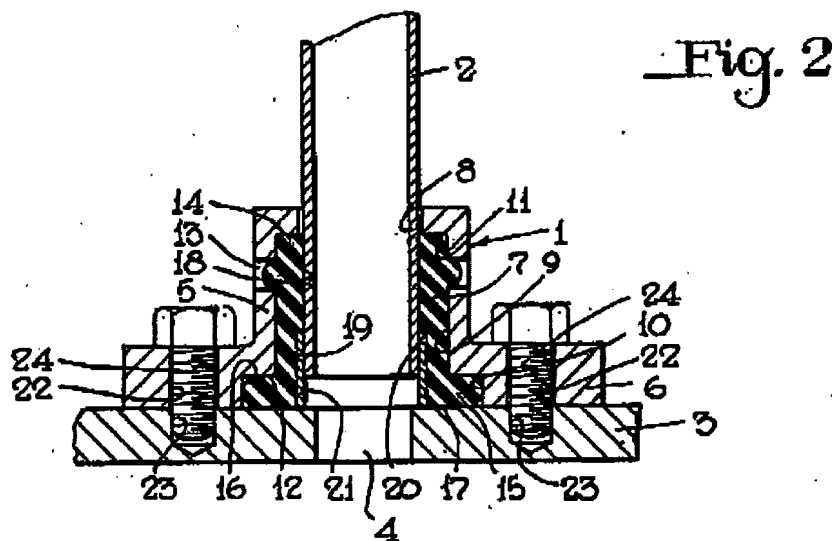
38. In regard to claim 16, Ghosh et al further disclose in Figure 1, above, that the fluidic system is a fluidic microsystem (The invention of Ghosh et al is a micro-chemical plant, therefore it is a fluidic microsystem).

39. Claims 17 and 19 are rejected under 35 U.S.C. 102(b) as being anticipated by Fuller (U.S. 2,812,959).

40. In regard to claim 17, Fuller disclose, in Figure 2 below, a method for liquid-tight coupling of a liquid line to a fluidic system, the method comprising:

forming a composite of at least one liquid line (2) with a bushing (7), a clamping device (1), and a fluidic system (3 is the wall of the system), and

actuating the clamping device to produce a contact pressure on a projection of the bushing (column 3, lines 12-30) in such a way that the sealing device forms the liquid-tight connection with the external surface of the fluidic system.



(Fuller Figure 2)

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41. In regard to claim 19, Fuller further discloses that to produce the composite, a end region of the liquid line is plugged into the bushing of the sealing device, which is subsequently connected to the clamping device and positioned on the fluidic system, so that the end of the liquid line points toward an opening in the external surface of the fluidic system (column 3, lines 12-30).

***Claim Rejections - 35 USC § 103***

42. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

43. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fuller as applied to claims above.

44. In regard to claim 18, Fuller discloses the claimed invention except for positioning the clamping device with bushing on the fluidic system prior to plugging the liquid line into the assembled components of clamping device and bushing. However, it would require less time of the arduous physical labor of holding the liquid line with the clamping device and bushing in position while tightening the bolts (24), thereby easing assembly. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to preposition the clamping device with bushing on the fluidic system prior to inserting the liquid line to ease assembly.

45. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fuller as applied to claims above, and further in view of Leibmann (U.S. 6,077,015).

46. In regard to claim 20, Fuller teaches the claimed invention except for the step of closing a bayonet connector between the clamping device and the fluidic system. Leibmann teaches, in column 1, lines 56-63, that components have been joined together with the use of fasteners in the form of screws, but that bayonet connectors have been utilized to reduce assembly and disassembly time. As Leibmann relates to components joined by fasteners, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the liquid-tight coupling of Fuller with bayonet connectors to reduce assembly and disassembly time.

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jay R. Ripley whose telephone number is 571-272-7535. The examiner can normally be reached on 6:00AM - 3:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on 571-272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



J. R. Ripley  
29 MAY 2007



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